

**NATURAL RESOURCES CONSERVATION SERVICE
CONSERVATION PRACTICE STANDARD**

CRITICAL AREA PLANTING

(Ac.)

CODE 342

DEFINITION

Establishing permanent vegetation on sites that have or expected to have high erosion rates, and on sites that have physical, chemical or biological conditions that prevent the establishment of vegetation with normal practices.

PURPOSE

Stabilize areas with existing or expected high rates of soil erosion by water.

Stabilize areas with existing or expected high rates of soil erosion by wind.

Stabilize areas following control of large stands (>5 acres) of invasive and noxious species.

Restore degraded sites that cannot be stabilized through normal methods.

CONDITIONS WHERE PRACTICE APPLIES

On all land with existing or expected high rates of erosion or degraded sites that cannot be stabilized by ordinary conservation treatment and /or management, and if left untreated, could be severely damaged by erosion or sedimentation or could cause significant off-site damage.

CRITERIA

General Criteria

Applicable to all species seeded or planted. Species seeded or planted shall be suited to current site condition and intended use. Selected species will have the capacity to achieve adequate density and vigor within an appropriate time frame to stabilize the site sufficiently to permit suited uses with ordinary management activities.

Avoid species that may harbor pest. Select a mixture of species that will not harbor know pests.

Species, rates of seeding or planting, minimum quality of planting stock, such as pure live seeding (PLS) or stem caliper, root length of transplants, length of pole cuttings, and method of establishment shall be specified before application. Only certified seed or high quality planting stock should be used. Species will be listed in the Range Seeding Standard (550) or in the attached specification or in the Eco-Site Description (ESD) for the site. The pure live seeding (PLS) rate is 40 seedlings per square foot. The rate must consider purity and germination to achieve the PLS rate. PLS can be estimated using the jobsheet and Agronomy Technical Note 13.

Native species will be used. Introduced species may be necessary if no appropriate native species are available.

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Annuals will primarily be used to create cover crop or dead litter crop to temporally stabilize an area long enough to establish a perennial cover. Cover crops will use soil moisture needed to establish perennial vegetation. Both **can not** be established at the same time without supplemental irrigation.

Site preparation and seeding, or planting shall be done at a time and in a manner that best ensures survival and growth of the selected species. The timing of the planting will use the zones and the planting dates listed in the Range Seeding Standard (550). A successful perennial planting will have an average of ½ plant per square foot after one year of planting.

Fertilization or other facilitating practices for plant growth may be applied to accelerate establishment of selected species. If the site is to be fertilized a soil test will be taken. All plant nutrients will be applied using the Nutrient Management Practice Standard (590).

Plantings shall comply with all applicable federal, state, and local laws, rules, and regulation.

Additional Criteria to Restore Degraded Sites

If gullies or deep rills are present, they will be treated (amended), if feasible, to allow equipment operation and ensure proper site and seedbed preparation.

Soil amendments will be added as necessary to improve or eliminate physical or chemical conditions that inhibit plant establishment and growth. Required amendments, such as compost, or manure to add to organic matter and improve soil structure and water holding capacity; or elemental sulfur or gypsum to lower the pH of calcareous soils shall be included in the site specifications with amounts, timing, and method of application. Gypsum may also be used to improve soil

structure by Calcium replacing exchangeable sodium. Use the NM 590 Nutrient Mgt. Standard and a Sodium Adsorption Ratio test to determine if Sodium is a problem. Even moderate amounts of sodium (3 ds/m) may affect establishment of tree and shrub pole cuttings.

Additional Criteria for Mulching

If there is a potential for erosion to occur before the planting can establish, apply mulch to temporarily protect the soil until the planting can establish. See the Mulching practice standard (484). However, excessive mulch produced from invasive brush and tree management can reduce survival of plant materials. Seed and plant roots must be in contact with mineral soil for successful establishment (refer to Range Seeding Standard and Plant Materials Technical notes 67 and 68)

Additional Criteria for Shaping

Some shaping of critical areas may be required, either to allow for the special management that may be required, or to make the area conform to the surrounding area. Shaping is required when the critical areas are headcuts, bankcuts, ephemeral, or classical gullies, blow out, dunes, or other severely eroded natural areas. All grading and shaping shall be no steeper than 3:1.

Additional Criteria for Invasive and Noxious Species.

Areas where unwanted invasive and noxious species are removed may need to be reestablished to native range or riparian species. If replanting is needed, special inventory of the site will be needed to determine depth to ground water and saline or sodic soil conditions. These inventories will be used to select the correct native vegetation needed to reestablish the site. See the specification information for a list of recommended species.

Tree and brush stumps will be flush cut with the ground surface to allow equipment operation. Stumps shall be treated to prevent sprouting as outlined in the Brush Management Standard (314).

CONSIDERATIONS

During planning, the changes in the vegetation which could effect water quality, such as volumes and rates of runoff, infiltration, evaporation, deep percolation, ground water recharge, organic matter, water holding capacity of the soil, and snow catch and melt all should be considered.

Water quality effects such as erosion and sediment movement, use of pesticides or nutrients, the filtering effect of vegetation, the potential for uncovering toxic materials during construction, and the short term construction related damages also should be considered during the planning process.

Consider mixed species that will enhance wildlife habitat as well as stabilize the site.

Native annual wild flowers may also be used if less than 5% of the total seed mix.

PLANS AND SPECIFICATION

Specification for applying this practice shall be prepared for each site and recorded and filed using the approved jobsheets or narrative statements in the conservation plan.

The NM Specification contains the appropriate information to design the practice. A jobsheet will be filled out and given to the client using the information include in the Standard and the Specification.

OPERATIONS AND MAINTENANCE

Use of the area shall be managed as long as necessary to stabilize the site and achieve the intended purpose.

Control or exclude grazing that will interfere with the timely establishment of vegetation.

Inspections, reseeding or replanting, fertilization, and pest control may be needed to insure that this practice functions as intended throughout its expected life. Re-sprout of undesirable vegetation will need to be controlled by chemical or mechanical means.

Use Exclusion (472) will be planned with this practice whenever livestock or people will have access to this site.